

**REMARKS**

In the non-final Office Action, the Examiner rejected claims 1, 5-7, 15-17, and 19-21 under 35 U.S.C. § 102(e) as anticipated by Oskouy et al. (U.S. Patent Application Publication No. 2002/0003795); rejected claims 1-3, 16, 17, and 24 under 35 U.S.C. § 103(a) as unpatentable over Hussey et al. (U.S. Patent Application Publication No. 2001/0049744) in view of Gaytan et al. (U.S. Patent No. 5,638,367); rejected claims 5-7, 15, and 19-21 under 35 U.S.C. § 103(a) as unpatentable over Hussey et al. in view of Gaytan et al. and Muller et al. (U.S. Patent No. 6,480,489); rejected claims 4, 8-14, 18, 25, 26, 28, and 29 under 35 U.S.C. § 103(a) as unpatentable over Hussey et al. in view of Gaytan et al. and Leatherbury et al. (U.S. Patent No. 6,763,025); and rejected claims 22, 23, 27, 30, and 31 under 35 U.S.C. § 103(a) as unpatentable over Hussey et al. in view of Gaytan et al., Muller et al., and Leatherbury et al.

By this Amendment, Applicant amends claims 1, 16, and 17 to improve form. Applicant respectfully traverses the Examiner's rejections under 35 U.S.C. §§ 102 and 103. Claims 1-31 remain pending.

In paragraphs 3-8 of the Office Action, the Examiner rejected claims 1, 5-7, 15-17, and 19-21 under 35 U.S.C. § 102(e) as allegedly anticipated by Oskouy et al. Applicant respectfully traverses the rejection with regard to the claims as amended herein.

A proper rejection under 35 U.S.C. § 102 requires that a single reference teach every aspect of the claimed invention either expressly or impliedly. Any feature not directly taught must be inherently present. In other words, the identical invention must be shown in as complete detail as contained in the claim. See M.P.E.P. § 2131. Oskouy et al. does not disclose or suggest the combination of features recited in claims 1, 5-7, 15-17, and 19-21.

Amended independent claim 1, for example, recites a system for removing gaps from streams of packets. The system comprises a packet splitter, a header buffer, a data buffer, and a packet combiner. The packet splitter is configured to receive the packets, where each of the packets includes a packet header and packet data, and separate the packet header from the packet data for each of the packets. The header buffer is configured to store the packet headers. The data buffer is configured to store the packet data. The packet combiner is configured to reassemble the packets from the packet headers in the header buffer and the packet data in the data buffer, where the reassembling causes gaps to occur between the packet headers and the packet data within the reassembled packets, and remove the gaps from the reassembled packets.

Oskouy et al. does not disclose the combination of features recited in claim 1. For example, Oskouy et al. does not disclose a packet combiner that is configured to reassemble packets from packet headers in a header buffer and packet data in a data buffer, where the reassembling causes gaps to occur between the packet headers and the packet data within the reassembled packets.

The Examiner alleged that Oskouy et al. discloses a packet combiner that is configured to reassemble packets from packet headers in a header buffer and packet data in a data buffer and cited element 392 (Office Action, paragraph 4). Applicant respectfully disagrees with regard to amended claim 1.

Oskouy et al. describes element 392 as a bank spray engine that sprays packets across memory banks (paragraphs 0084-0092). Nowhere does Oskouy et al. disclose that bank spray engine 392 reassembles packets from packet headers in a header buffer and packet data in a data

buffer, where the reassembling causes gaps to occur between the packet headers and the packet data within the reassembled packets, as required by claim 1.

Oskouy et al. also does not disclose a packet combiner that is configured to remove gaps from between packet headers and packet data that occur during reassembly of the packets, as further recited in amended claim 1. The Examiner alleged that Oskouy et al. discloses a packet combiner that is configured to remove gaps from reassembled packets and cited paragraphs 0048, 0049, and 0052 of Oskouy et al. for support (Office Action, paragraph 4). Applicant respectfully disagrees with regard to amended claim 1.

At paragraphs 0048 and 0049, Oskouy et al. discloses:

[0048] Each multi-function multiport includes a line input interface 300 that can include up to 16 input ports for receiving data from up to 16 active streams. Each multi-function multiport is configurable to accommodate streams of various formats and in one implementation supports a 2.4 Gbps (OC-48) full duplex interface. Other input configurations are available with an accumulated bandwidth of up to 2.4 Gbps, including up to 16 streams of OC-3 bandwidth. Other configurations include 12 streams of OC-3 bandwidth and one stream of OC-12 bandwidth. Packing queue 380 receives the various input stream data on the input ports and packs the stream data into data words for transfer to segmentation buffer 387 (up to 64 bytes in one implementation). Packing queue 380 includes per stream queues for accumulating data from each stream.

[0049] Referring to FIG. 3d, the packing process is performed in two phases. In a first phase, 8 bit or 32 bit data is accumulated in a bit packing queue 381a. Bit packing queue 381a includes stream bit packing queues (381a-1 thru 381a-16), one for each stream. In one implementation, bit packing queue 381a includes 16 stream bit packing queues (when supporting 16 OC-3 streams). Bit packing queue 381a includes a controller 385a for streaming data words from the bit packing queue to a byte packing queue 381b. Each stream bit packing queue can be sized to hold two or more words of data, and in one implementation are sized to hold three 64 bit words of data (8 byte data words). Associated with each data word stored in the stream bit packing queues are control flags which are received along with the stream data. In one embodiment, five (5) bits of flag data are stored with each 64 bit data word in each stream bit packing queue. The five flag data bits are passed with each 64 bit word from the bit packing queue 381a to the byte packing queue 381b.

Nowhere in these sections, or elsewhere, does Oskouy et al. disclose removing gaps from between packet headers and packet data that occur during reassembly of the packets, as required by amended claim 1.

At paragraph 0052, Oskouy et al. discloses:

[0052] In a second phase of the packing process, byte packing queue 381b accumulates eight (8) byte portions of data (64 bit data words) prior to segmentation. Byte packing queue 381b includes stream byte packing queues (381b-0 thru 381b-15), one for each stream. In one implementation, byte packing queue 381b includes 16 stream byte packing queues to support 16 streams of OC-3 data. Depending on the format of the stream data received, a lesser number of the stream byte packing queues can be used. Byte packing queue 381b is sized to support the input bandwidth, which in one implementation is 2.4 Gbps. Byte packing queue 381b is configurable to support a variety of input stream configurations. Byte packing queue 381b can be a flexible buffer whose resources are dynamically allocated at start-up depending on the input configuration.

Nowhere in this section, or elsewhere, does Oskouy et al. disclose removing gaps from between packet headers and packet data that occur during reassembly of the packets, as required by amended claim 1.

For at least these reasons, Applicant submits that claim 1 is not anticipated by Oskouy et al. Claims 5-7 and 15 depend from claim 1 and are, therefore, not anticipated by Oskouy et al. for at least the reasons given with regard to claim 1.

Amended independent claim 16 recites a system for removing gaps from packets. The system comprises means for receiving a packet including a packet header and packet data, means for separating the packet header from the packet data for the packet, means for separately storing the packet header and the packet data, and means for reassembling the packet based on the stored packet header and the stored packet data, where the reassembling causes a gap to occur within the packet between the packet header and the packet data. The system further comprises means for removing the gap from the reassembled packet.

Oskouy et al. does not disclose the combination of features recited in claim 16. For example, Oskouy et al. does not disclose means for reassembling a packet based on stored packet header and stored packet data, where the reassembling causes a gap to occur within the packet between the packet header and the packet data.

The Examiner alleged that Oskouy et al. discloses means for reassembling packets using stored packet headers and stored packet data and cited element 392 of Oskouy et al. for support (Office Action, paragraph 5). Applicant respectfully disagrees with regard to amended claim 16.

Oskouy et al. identifies element 392 as a bank spray engine that sprays packets across memory banks (paragraphs 0084-0092). Nowhere does Oskouy et al. disclose that bank spray engine 392 includes means for reassembling a packet based on stored packet header and stored packet data, where the reassembling causes a gap to occur within the packet between the packet header and the packet data, as required by claim 16.

Oskouy et al. also does not disclose means for removing a gap between a packet header and packet data that occurs within a packet during reassembly, as further recited in claim 16. The Examiner alleged that Oskouy et al. discloses means for removing gaps from reassembled packets and identified paragraphs 0048, 0049, and 0052 of Oskouy et al. for support (Office Action, paragraph 5). Applicant disagrees with regard to amended claim 16.

Paragraphs 0048, 0049, and 0052 of Oskouy et al. have been reproduced above. Nowhere in these sections, or elsewhere, does Oskouy et al. disclose means for removing a gap from between a packet header and packet data that occurs during reassembly of the packet, as required by amended claim 16.

For at least these reasons, Applicants submit that claim 16 is not anticipated by Oskouy et al.

Amended independent claim 17 recites a method for removing gaps from streams of packets. The method comprises obtaining streams of packets, where each of the packets includes a packet header and packet data; separating the packet header from the packet data for each of the packets; separately storing the packet headers and the packet data; reassembling the packets using the stored packet headers and the stored packet data, where the reassembling causes gaps to occur within the reassembled packets between the packet headers and the packet data; and removing the gaps from the reassembled packets.

Oskouy et al. does not disclose the combination of features recited in claim 17. For example, Oskouy et al. does not disclose reassembling packets using stored packet headers and stored packet data, where the reassembling causes gaps to occur within the reassembled packets between the packet headers and the packet data.

The Examiner alleged that Oskouy et al. discloses reassembling packets using stored packet headers and stored packet data and cited element 392 of Oskouy et al. for support (Office Action, paragraph 6). Applicant respectfully disagrees with regard to amended claim 17.

Oskouy et al. identifies element 392 as a bank spray engine that sprays packets across memory banks (paragraphs 0084-0092). Nowhere does Oskouy et al. disclose that bank spray engine 392 reassembles packets using stored packet headers and stored packet data, where the reassembling causes gaps to occur within the reassembled packets between the packet headers and the packet data, as required by claim 17.

Oskouy et al. also does not disclose removing the gaps from between the packet headers and packet data that occur within the packets during reassembly, as further recited in claim 17. The Examiner alleged that Oskouy et al. discloses removing gaps from reassembled packets and identified paragraphs 0048, 0049, and 0052 of Oskouy et al. for support (Office Action, paragraph 6). Applicant disagrees with regard to amended claim 17.

Paragraphs 0048, 0049, and 0052 of Oskouy et al. have been reproduced above. Nowhere in these sections, or elsewhere, does Oskouy et al. disclose removing gaps from between packet headers and packet data that occur during reassembly of the packets, as required by amended claim 17.

For at least these reasons, Applicants submit that claim 17 is not anticipated by Oskouy et al. Claims 19-21 depend from claim 17 and are, therefore, not anticipated by Oskouy et al. for at least the reasons given with regard to claim 17.

In paragraphs 10-17 of the Office Action, the Examiner rejected claims 1-3, 16, 17, and 24 under 35 U.S.C. § 103(a) as allegedly unpatentable over Hussey et al. in view of Gaytan et al. Applicant respectfully traverses the rejection.

As described above, claim 1 recites, among other things, a packet combiner that is configured to reassemble packets from packet headers in a header buffer and packet data in a data buffer, where the reassembling causes gaps to occur between the packet headers and the packet data within the reassembled packets, and remove the gaps from the reassembled packets. Neither Hussey et al. nor Gaytan et al., whether taken alone or in any reasonable combination, discloses or suggests this combination of features.

The Examiner alleged that Hussey et al. discloses a packet combiner that is configured to reassemble packets from packet headers in a header buffer and packet data in a data buffer and cited paragraph 0011 of Hussey et al. for support (Office Action, paragraph 11). Applicant submits that regardless of the accuracy of the Examiner's allegation, Hussey et al. does not disclose or suggest that reassembly of the packets causes gaps to occur between the packet headers and the packet data within the reassembled packets, as recited in amended claim 1.

Hussey et al. and Gaytan et al. also do not disclose or suggest a packet combiner that is configured to remove gaps from between packet headers and packet data that occur during reassembly of the packets, as recited in amended claim 1. The Examiner admitted that Hussey et al. does not disclose removing gaps from a stream of packets, but alleged that Gaytan et al. discloses this feature and cited column 1, line 64 to column 2, line 5 of Gaytan et al. for support (Office Action, paragraph 12). Applicant submits that regardless of the accuracy of the Examiner's allegation with regard to Gaytan et al., Gaytan et al. does not disclose or suggest a packet combiner that is configured to remove gaps from between packet headers and packet data that occur during reassembly of the packets, as required by amended claim 1.

For at least these reasons, Applicant submits that claim 1 is patentable over Hussey et al. and Gaytan et al., whether taken alone or in any reasonable combination. Claims 2 and 3 depend from claim 1 and are, therefore, patentable over Hussey et al. and Gaytan et al. for at least the reasons given with regard to claim 1.

As described above, claim 16 recites, among other things, means for reassembling a packet based on stored packet header and stored packet data, where the reassembling causes a gap to occur within the packet between the packet header and the packet data, and means for



removing the gap from the reassembled packet. Neither Hussey et al. nor Gaytan et al., whether taken alone or in any reasonable combination, discloses or suggests this combination of features.

The Examiner rejected claim 16 for the same reasons as claim 1 (Office Action, paragraph 15). Applicant submits that neither Hussey et al. nor Gaytan et al. discloses or suggests the above-identified features of claim 16 for reasons similar to reasons given with regard to claim 1.

For at least these reasons, Applicant submits that claim 16 is patentable over Hussey et al. and Gaytan et al., whether taken alone or in any reasonable combination.

As described above, claim 17 recites, among other things, reassembling packets using stored packet headers and stored packet data, where the reassembling causes gaps to occur within the reassembled packets between the packet headers and the packet data, and removing the gaps from the reassembled packets. Neither Hussey et al. nor Gaytan et al., whether taken alone or in any reasonable combination, discloses or suggests this combination of features.

The Examiner rejected claim 17 for the same reasons as claims 1 and 16 (Office Action, paragraph 16). Applicant submits that neither Hussey et al. nor Gaytan et al. discloses or suggests the above-identified features of claim 17 for reasons similar to reasons given with regard to claim 1.

For at least these reasons, Applicant submits that claim 17 is patentable over Hussey et al. and Gaytan et al., whether taken alone or in any reasonable combination. Claim 24 depends from claim 17 and is, therefore, patentable over Hussey et al. and Gaytan et al. for at least the reasons given with regard to claim 17.

In paragraphs 18-20 of the Office Action, the Examiner rejected claims 5-7, 15, and 19-21 under 35 U.S.C. § 103(a) as allegedly unpatentable over Hussey et al. in view of Gaytan et al. and Muller et al. Applicant respectfully traverses the rejection.

Claims 5-7 and 15 depend from claim 1 and claims 19-21 depend from claim 17. Without acquiescing in the Examiner's rejection with regard to claims 5-7, 15, and 19-21, Applicant submits that the disclosure of Muller et al. does not cure the deficiencies in the disclosures of Hussey et al. and Gaytan et al. identified above with regard to claims 1 and 17.

Therefore, claims 5-7, 15, and 19-21 are patentable over Hussey et al., Gaytan et al., and Muller et al., whether taken alone or in any reasonable combination, for at least the reasons given with regard to claims 1 and 17.

In paragraphs 21-29, the Examiner rejected claims 4, 8-14, 18, 25, 26, 28, and 29 under 35 U.S.C. § 103(a) as allegedly unpatentable over Hussey et al. in view of Gaytan et al. and Leatherbury et al. Applicant respectfully traverses the rejection.

Initially, claims 4 and 8-14 depend from claim 1 and claim 18 depends from claim 17. Without acquiescing in the Examiner's rejection with regard to claims 4, 8-14, and 18, Applicant submits that the disclosure of Leatherbury et al. does not cure the deficiencies in the disclosures of Hussey et al. and Gaytan et al. identified above with regard to claims 1 and 17. Therefore, claims 4, 8-14, and 18 are patentable over Hussey et al., Gaytan et al., and Leatherbury et al., whether taken alone or in any reasonable combination, for at least the reasons given with regard to claims 1 and 17.

Moreover, claim 8 recites that the packet combiner further includes a first multiplexer configured to multiplex one or more of the reassembled packets output by the memory based on

write or read stream identifiers, and a second multiplexer configured to multiplex one or more of the reassembled packets output by the memory based on the write or read stream identifiers.

Neither Hussey et al., Gaytan et al., nor Leatherbury et al. discloses or suggests the combination of features recited in claim 8.

The Examiner admitted that Hussey et al. and Gaytan et al. do not disclose multiplexing data streams, but alleged that Leatherbury et al. discloses multiplexing data streams and cited column 2, lines 59-65, of Leatherbury et al. for support (Office Action, paragraph 22).

Regardless of the accuracy of the Examiner's allegation, Applicant submits that the Examiner has not addressed the features of claim 8. Claim 8 does not simply recite "multiplexing the data streams," as alleged by the Examiner. Instead, claim 8 recites a first multiplexer configured to multiplex one or more reassembled packets output by a memory based on write or read stream identifiers, and a second multiplexer configured to multiplex one or more of the reassembled packets output by the memory based on the write or read stream identifiers. Neither Hussey et al., Gaytan et al., nor Leatherbury et al. discloses or suggests these features. Since the Examiner has not addressed the features of claim 8, the Examiner has not established a prima facie case of obviousness with regard to claim 8.

For at least these additional reasons, Applicant submits that claim 8 is patentable over Hussey et al., Gaytan et al., and Leatherbury et al., whether taken alone or in any reasonable combination.

Claim 9 recites that the first multiplexer includes a 2:1 multiplexer and the second multiplexer includes a 3:1 multiplexer; claim 10 recites that the first multiplexer includes a 3:2 multiplexer and the second multiplexer includes a 2:1 multiplexer; and claim 14 recites that the

first multiplexer includes a 3:2 multiplexer, the second multiplexer includes a 2:1 multiplexer, and the third multiplexer includes a 3:1 multiplexer. Neither Hussey et al., Gaytan et al., nor Leatherbury et al. discloses or suggests the combination of features recited in claims 9, 10, and 14.

The Examiner admitted that Leatherbury et al. does not disclose these features, but alleged that "it would have been obvious to one skilled in the art at the time of the invention that using different multiplexing ratios would accommodate destinations need for transmitting streams with different bandwidths" (Office Action, paragraph 23). Applicant submits that the Examiner's allegation falls short of establishing a prima facie case of obviousness with regard to claims 9, 10, and 14. The Examiner has not addressed the first and second multiplexers recited in claims 9 and 10 or the second and third multiplexers recited in claim 14. Therefore, the Examiner's allegation as to their multiplexing ratios finds no support in any of these references.

Further, Applicant submits that the Examiner has not met the requisite burden of proof by failing to explain how and why one having ordinary skill in the art would have been led to modify the Hussey et al., Gaytan et al., and Leatherbury et al. disclosures to include multiplexers with the specified multiplexing ratios. Instead, the Examiner merely provided a conclusory allegation that it would have been obvious (Office Action, paragraph 23). Such an allegation is insufficient to satisfy the burden of proof required to establish a prima case of obviousness.

Rejections based on 35 U.S.C. § 103(a) must rest on a factual basis. In re Warner, 379 F.2d 1011, 1017, 154 USPQ 173, 177-178 (CCPA 1967). In making such a rejection, the Examiner has the initial duty of supplying the requisite factual basis and may not, because of doubts that the invention is patentable, resort to speculation, unfounded assumptions, or

hindsight reconstruction to supply deficiencies in the factual basis. Id. In this case, the Examiner does not provide any factual basis to supply the deficiencies in the disclosures of Hussey et al., Gaytan et al., and Leatherbury et al.

For at least these additional reasons, Applicant submits that claims 9, 10, and 14 are patentable over Hussey et al., Gaytan et al., and Leatherbury et al., whether taken alone or in any reasonable combination.

Claim 11 recites that the packet combiner further includes a first byte packer configured to remove gaps from the multiplexed packets from the first multiplexer, and a second byte packer configured to remove gaps from the multiplexed packets from the second multiplexer. Neither Hussey et al., Gaytan et al., nor Leatherbury et al. discloses or suggests the combination of features recited in claim 11.

The Examiner has not addressed the features of claim 11, but instead generally referred to the rejection of claims 4, 8, 22, and 24 (Office Action, paragraph 24). None of these claims, however, recite first and second byte packers as recited in claim 11. Therefore, the Examiner has not established a prima facie case of obviousness with regard to claim 11.

For at least these additional reasons, Applicant submits that claim 11 is patentable over Hussey et al., Gaytan et al., and Leatherbury et al., whether taken alone or in any reasonable combination.

Claim 13 recites, among other things, a second multiplexer configured to multiplex one or more of the gap-free packets from the memory, and a third multiplexer configured to multiplex one or more of the gap-free packets from the memory. Neither Hussey et al., Gaytan et al., nor Leatherbury et al. discloses or suggests the combination of features recited in claim 13.

The Examiner has not addressed these features of claim 13, but instead generally referred to the rejection of claims 1, 4-6, and 8 (Office Action, paragraph 26). Similar to claim 8, the Examiner has not addressed second and third multiplexers. Therefore, the Examiner has not established a prima facie case of obviousness with regard to claim 13.

For at least these additional reasons, Applicant submits that claim 13 is patentable over Hussey et al., Gaytan et al., and Leatherbury et al., whether taken alone or in any reasonable combination.

Independent claim 25 recites a system that operates in first and second modes to remove gaps from streams of data. The system comprises handshake logic, a first multiplexer, a byte packer, a memory, a second multiplexer, and a third multiplexer. The handshake logic is configured to obtain a header portion and a body portion of a data unit corresponding to one of the data streams and reassemble the data stream from the header and body portions. The first multiplexer is configured to multiplex the reassembled data stream from the handshake logic. The byte packer is configured to remove gaps from data units within the multiplexed data stream to generate a gap-free data stream. The memory is configured to temporarily buffer the gap-free data stream. The second multiplexer is configured to multiplex the gap-free data stream in the first mode. The third multiplexer is configured to multiplex the gap-free data stream in the second mode.

Neither Hussey et al., Gaytan et al., nor Leatherbury et al., whether taken alone or in any reasonable combination, discloses or suggests the combination of features recited in claim 25. For example, neither Hussey et al., Gaytan et al., nor Leatherbury et al. discloses or suggests a second multiplexer configured to multiplex a gap-free data stream generated by a byte packer in a

first mode and a third multiplexer configured to multiplex the gap-free data stream generated by the byte packer in a second mode.

The Examiner did not address these features. Instead, the Examiner generally referred to the rejection of claims 1, 4, 16, and 17 (Office Action, paragraph 27). None of these claims recites second and third multiplexers that multiplex a gap-free data stream generated by a byte packer in first and second modes, respectively, as recited in claim 25. Therefore, the Examiner did not establish a prima facie case of obviousness with regard to claim 25.

For at least these reasons, Applicant submits that claim 25 is patentable over Hussey et al., Gaytan et al., and Leatherbury et al., whether taken alone or in any reasonable combination. Claim 26 depends from claim 25 and is, therefore, patentable over Hussey et al., Gaytan et al., and Leatherbury et al. for at least the reasons given with regard to claim 25. Claim 26 is further patentable for reasons of its own.

For example, claim 26 recites that the first multiplexer includes a 3:2 multiplexer, the second multiplexer includes a 2:1 multiplexer, and the third multiplexer includes a 3:1 multiplexer. Neither Hussey et al., Gaytan et al., nor Leatherbury et al., whether taken alone or in any reasonable combination, discloses or suggests the combination of features recited in claim 26.

The Examiner alleged that it would have been obvious to one skilled in the art that using different multiplexing ratios would accommodate destinations need for transmitting streams with different bandwidths (Office Action, paragraph 23). Applicant submits that the Examiner's allegation falls short of establishing a prima facie case of obviousness with regard to claim 26. As explained above with regard to claim 25, neither Hussey et al., Gaytan et al., nor Leatherbury

et al. discloses or suggests the second or third multiplexer recited in claim 25. Therefore, the Examiner's allegation as to their multiplexing ratios finds no support in any of these references.

For at least these additional reasons, Applicant submits that claim 26 is patentable over Hussey et al., Gaytan et al., and Leatherbury et al.

Independent claim 28 recites features similar to features recited in claim 25. For example, claim 28 recites means for multiplexing the gap-free data stream by a second multiplexer in the first mode and means for multiplexing the gap-free data stream by a third multiplexer in the second mode. The Examiner did not address these features, but instead generally referred to the rejections of claims 1, 4, 16, 17, and 25 (Office Action, paragraph 28).

For reasons similar to reasons provided above with regard to claim 25, Applicant submits that claim 28 is patentable over Hussey et al., Gaytan et al., and Leatherbury et al., whether taken alone or in any reasonable combination.

Independent claim 29 recites features similar to features recited in claim 25. For example, claim 29 recites multiplexing the gap-free data stream by a second multiplexer in the first mode and multiplexing the gap-free data stream by a third multiplexer in the second mode. The Examiner did not address these features, but instead generally referred to the rejections of claims 1, 4, 16, 17, and 25 (Office Action, paragraph 29).

The Examiner also alleged that "it would have been obvious to one skilled in the art at the time of the invention that multiplexing before or after data packing is a design decision that may or may not affect the performance of the system depending on its usage" (Office Action, paragraph 29). Applicant submit that the Examiner did not direct this allegation toward any



particular feature of claim 29. Therefore, Applicant assumes that the Examiner's allegation is directed to all of the multiplexing features.

Nevertheless, Applicant submits that the Examiner has not met the requisite burden of proof by failing to explain how and why one having ordinary skill in the art would have been led to modify the Hussey et al., Gaytan et al., and Leatherbury et al. disclosures to multiplex a reassembled data stream, a gap-free data stream in a first mode, and the gap-free data stream in a second mode. Instead, the Examiner merely provided a conclusory allegation, such as "design decision" (Office Action, paragraph 29). Such an allegation is insufficient to satisfy the burden of proof required to establish a prima case of obviousness.

As discussed above, rejections based on 35 U.S.C. § 103(a) must rest on a factual basis. In re Warner, 379 F.2d 1011, 1017, 154 USPQ 173, 177-178 (CCPA 1967). In making such a rejection, the Examiner has the initial duty of supplying the requisite factual basis and may not, because of doubts that the invention is patentable, resort to speculation, unfounded assumptions, or hindsight reconstruction to supply deficiencies in the factual basis. Id. In this case, the Examiner does not provide any factual basis to supply the deficiencies in the disclosures of Hussey et al., Gaytan et al., and Leatherbury et al.

For at least these reasons and for reasons similar to those provided above with regard to claim 25, Applicant submits that claim 29 is patentable over Hussey et al., Gaytan et al., and Leatherbury et al., whether taken alone or in any reasonable combination.

In paragraphs 30-35 of the Office Action, the Examiner rejected claims 22, 23, 27, 30, and 31 under 35 U.S.C. § 103(a) as unpatentable over Hussey et al. in view of Gaytan et al., Muller et al., and Leatherbury et al. Applicant respectfully traverses the rejection.

Claims 22 and 23 depend from claim 17. Without acquiescing in the Examiner's rejection with regard to claims 22 and 23, Applicant submits that the disclosures of Muller et al. and Leatherbury et al. do not cure the deficiencies in the disclosures of Hussey et al. and Gaytan et al. identified above with regard to claim 17. Therefore, claims 22 and 23 are patentable over Hussey et al., Gaytan et al., Muller et al., and Leatherbury et al., whether taken alone or in any reasonable combination, for at least the reasons given with regard to claim 17.

Further, claim 22 recites multiplexing one or more of the reassembled packets by a first multiplexer based on stream identifiers corresponding to the streams, and multiplexing one or more of the reassembled packets by a second multiplexer based on stream identifiers corresponding to the streams. The Examiner rejected claim 22 by generally referring to the rejection of claims 4, 5, 8, 15, and 17 (Office Action, paragraph 31). Applicant submits that the Examiner's rejection is deficient for several reasons.

Claim 22 recites features similar to features recited in claim 8, but not claims 4, 5, 15, or 17. As explained above, the Examiner has not addressed the features of claim 8. Therefore, the Examiner's general referral to the rejection of claims 4, 5, 8, 15, and 17 is insufficient to establish a prima facie case of obviousness with regard to claim 22. Further, the Examiner has not met the requisite burden of proof by failing to explain how and why one having ordinary skill in the art would have been led to modify the Hussey et al. and Gaytan et al. disclosures with the alleged teachings of Muller et al. and Leatherbury et al. Therefore, the Examiner's rejection falls short of establishing a prima facie case of obviousness with regard to claim 22.

For at least these additional reasons, Applicant submits that claim 22 is patentable over Hussey et al., Gaytan et al., Muller et al., and Leatherbury et al., whether taken alone or in any reasonable combination.

Claim 23 recites that the method further includes subjecting the multiplexed packets from the first multiplexer to a first byte packing process, and subjecting the multiplexed packets from the second multiplexer to a second byte packing process. Neither Hussey et al., Gaytan et al., Muller et al., nor Leatherbury et al. discloses or suggests these features. The Examiner rejected claim 23 by generally referring to the rejection of claims 4, 8, 22, and 24 (Office Action, paragraph 32). Applicant submits that the Examiner's rejection is deficient for several reasons.

First, none of claims 4, 8, 22, and 24 recite features similar to features recited in claim 23. Therefore, the Examiner's general referral to the rejection of claims 4, 8, 22, and 24 is insufficient to establish a prima facie case of obviousness with regard to claim 23. Further, the Examiner has not met the requisite burden of proof by failing to explain how and why one having ordinary skill in the art would have been led to modify the Hussey et al. and Gaytan et al. disclosures with the alleged teachings of Muller et al. and Leatherbury et al. Therefore, the Examiner's rejection falls short of establishing a prima facie case of obviousness with regard to claim 23.

For at least these additional reasons, Applicant submits that claim 23 is patentable over Hussey et al., Gaytan et al., Muller et al., and Leatherbury et al., whether taken alone or in any reasonable combination.

Claim 27 depends from claim 25. Without acquiescing in the Examiner's rejection with regard to claim 27, Applicant submits that the disclosure of Muller et al. does not cure the

deficiencies in the disclosures of Hussey et al., Gaytan et al., and Leatherbury et al. identified above with regard to claim 25. Therefore, claim 27 is patentable over Hussey et al., Gaytan et al., Muller et al., and Leatherbury et al., whether taken alone or in any reasonable combination, for at least the reasons given with regard to claim 25.

Independent claim 30 recites a network device comprising a switching fabric and a plurality of packet processors connected to the switching fabric. Each of the packet processors includes a stream map, a first multiplexer, a byte packer, a memory, a second multiplexer, and a third multiplexer. The stream map is configured to provide stream identifiers corresponding to a plurality of streams of packets. The first multiplexer is configured to multiplex packets based on the stream identifiers. The byte packer is configured to remove gaps from the multiplexed packets from the first multiplexer to generate gap-free packets. The memory is configured to store and output the gap-free packets based on the stream identifiers. The second multiplexer is configured to multiplex one or more of the gap-free packets based on the stream identifiers. The third multiplexer is configured to multiplex one or more of the gap-free packets based on the stream identifiers.

Neither Hussey et al., Gaytan et al., Muller et al., nor Leatherbury et al., whether taken alone or in any reasonable combination, discloses or suggests the combination of features recited in claim 30. The Examiner rejected claim 30 by generally referring to the rejection of claims 1, 4, 5, 8, 15-17, 19, 25, 28, and 29 (Office Action, paragraph 34). Applicant submits that the Examiner's rejection is deficient because the Examiner has not addressed several features recited in claim 30.

For example, the Examiner has not addressed the feature of a first multiplexer configured to multiplex packets based on stream identifiers corresponding to a plurality of streams of packets, as required by claim 30. The Examiner also has not addressed the features of a second multiplexer configured to multiplex one or more of the gap-free packets based on the stream identifiers and a third multiplexer configured to multiplex one or more of the gap-free packets based on the stream identifiers, as further required by claim 30. Neither Hussey et al., Gaytan et al., Muller et al., nor Leatherbury et al., whether taken alone or in any reasonable combination, discloses or suggests these features of claim 30.

Therefore, the Examiner's general referral to the rejection of claims 1, 4, 5, 8, 15-17, 19, 25, 28, and 29 is insufficient to establish a prima facie case of obviousness with regard to claim 30. Further, the Examiner has not met the requisite burden of proof by failing to explain how and why one having ordinary skill in the art would have been led to modify the disclosures of Hussey et al., Gaytan et al., Muller et al., and Leatherbury et al. as required by 35 U.S.C. § 103. Therefore, the Examiner's rejection falls short of establishing a prima facie case of obviousness with regard to claim 30.

For at least these reasons, Applicant submits that claim 30 is patentable over Hussey et al. in view of Gaytan et al., Muller et al., and Leatherbury et al., whether taken alone or in any reasonable combination.

Independent claim 31 recites a network device comprising a switching fabric and a plurality of packet processors connected to the switching fabric. Each of the packet processors includes a stream map, a memory, a first multiplexer, a first byte packer, a second multiplexer, and a second byte packer. The stream map is configured to provide stream identifiers

corresponding to a plurality of streams of packets. The memory is configured to store and output packets based on the stream identifiers. The first multiplexer is configured to multiplex one or more of the stored packets based on the stream identifiers. The first byte packer is configured to remove gaps from the multiplexed packets from the first multiplexer to generate gap-free packets. The second multiplexer is configured to multiplex one or more of the stored packets based on the stream identifiers. The second byte packer is configured to remove gaps from the multiplexed packets from the second multiplexer to generate gap-free packets.

Neither Hussey et al., Gaytan et al., Muller et al., nor Leatherbury et al., whether taken alone or in any reasonable combination, discloses or suggests the combination of features recited in claim 31. The Examiner rejected claim 31 by generally referring to the rejection of claims 1, 4, 5, 8, 15-17, 19, 25, and 28-30 (Office Action, paragraph 35). Applicant submits that the Examiner's rejection is deficient because the Examiner has not addressed several features recited in claim 31.

For example, the Examiner has not addressed the feature of a first multiplexer configured to multiplex one or more stored packets based on stream identifiers corresponding to a plurality of streams of packets, as required by claim 31. The Examiner also has not addressed the features of a first byte packer configured to remove gaps from the multiplexed packets from the first multiplexer to generate gap-free packets and a second byte packer configured to remove gaps from the multiplexed packets from the second multiplexer to generate gap-free packets, as further required by claim 31. Neither Hussey et al., Gaytan et al., Muller et al., nor Leatherbury et al., whether taken alone or in any reasonable combination, discloses or suggests these features of claim 31.

Therefore, the Examiner's general referral to the rejection of claims 1, 4, 5, 8, 15-17, 19, 25, and 28-30 is insufficient to establish a prima facie case of obviousness with regard to claim 31. Further, the Examiner has not met the requisite burden of proof by failing to explain how and why one having ordinary skill in the art would have been led to modify the disclosures of Hussey et al., Gaytan et al., Muller et al., and Leatherbury et al. as required by 35 U.S.C. § 103. Therefore, the Examiner's rejection falls short of establishing a prima facie case of obviousness with regard to claim 31.


For at least these reasons, Applicant submits that claim 31 is patentable over Hussey et al. in view of Gaytan et al., Muller et al., and Leatherbury et al., whether taken alone or in any reasonable combination.

In view of the foregoing amendments and remarks, Applicant respectfully requests the Examiner's reconsideration of the application and the timely allowance of pending claims 1-31.

To the extent necessary, a petition for an extension of time under 35 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1070 and please credit any excess fees to such deposit account.

Respectfully submitted,

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